



# KOREAN PATENT ABSTRACTS(KR)

Document Code:A

(11) Publication No.1020010001127 (43) Publication Date. 20010105

(21) Application No.1019990020155 (22) Application Date. 19990602

(51) IPC Code:

C01B 39/00

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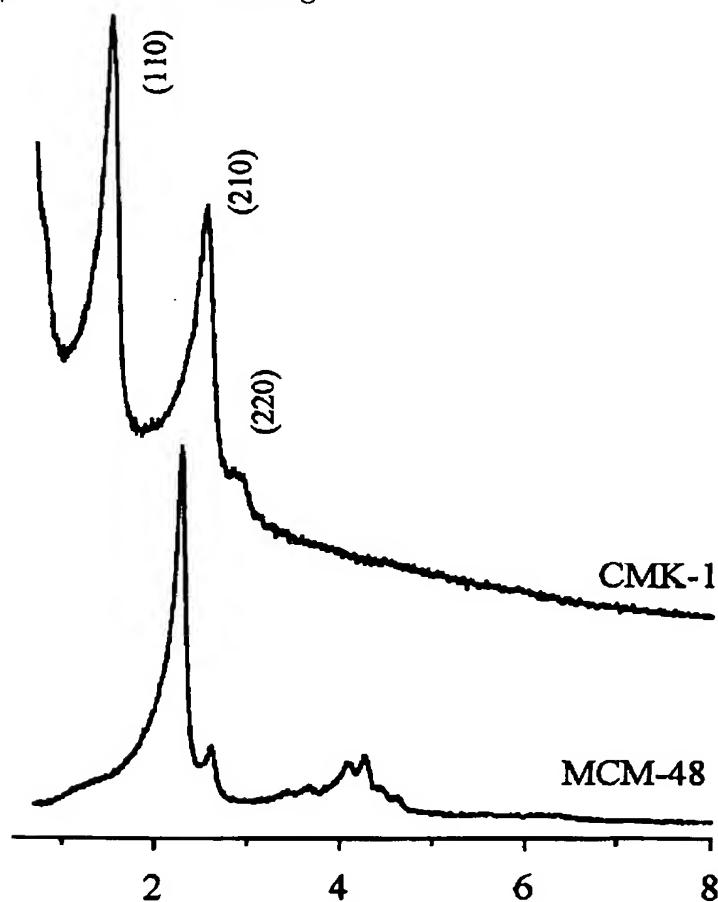
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(30) Priority:

(54) Title of Invention

STRUCTURE-ORDERED CARBON MOLECULAR SIEVE MATERIAL, PREPARATION METHOD THEREOF AND USES THEREFOR

Representative drawing



(57) Abstract:

PURPOSE: A structure-ordered carbon molecular sieve material using an inorganic molecular sieve material as a main form is prepared by a catalyst carbonization process. The carbon molecular sieve has monosized pores and a regular structure required for catalysts, absorbing materials, sensors, and electrode materials.

CONSTITUTION: The manufacturing method of carbon molecular sieve comprises the steps of: (i) adsorbing mixture of carbohydrate such as sucrose, xylose, or glucose and acid or organics containing polymer precursor such as furfuryl alcohol, aniline, acetylene, or propylene to a pore of molecular sieve material such as MCM-48, SBA-1, KIT-1, or MSU-1; (ii) drying and polymerizing in the range of 50-400 deg.C., in which the time required for elevating within the temperature range of

drying/polymerization is 5 min to 24 hrs; (iii) re-adsorbing materials of (i) to the mixture of (ii), drying and polymerizing; (iv) carbonizing by thermal decomposition at 500-1200 deg.C for 1-12hrs., in which the time required for elevating within the temperature range of carbonization is 1 to 24 hrs; eliminating an inorganic form of the molecular sieve with HF or NaOH

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